



ROUX ASSOCIATES, INC.
Environmental Consulting
& Management

209 Shafter Street
Islandia, NY 11749
Telephone: (631) 232-2600
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DRAFT

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WELL CONSTRUCTION LOG

WELL NO. CFMW-016a	LATITUDE Not Measured	LONGITUDE Not Measured
PROJECT NO./NAME 2476.0001Y / CFAC RI/FS Phase 1	LOCATION 2000 Aluminum Drive Columbia Falls, Montana	
APPROVED BY L. Jensen	LOGGED BY A. Hoffmann	GEOGRAPHIC AREA
DRILLING CONTRACTOR/DRILLER Cascade Drilling / Carlos Anguiano		
DRILL BIT DIAMETER/TYPE 6-in. / Sonic Bit	BOREHOLE DIAMETER 6-inches	DRILLING EQUIPMENT/METHOD Truck Mounted / Rotasonic
CASING MAT./DIA. SCH 40 PVC / 2-inch	SCREEN: TYPE Slotted	SAMPLING METHOD Continuous Core
		START-FINISH DATE 6/21/16-6/25/16
		MAT. SCH 40 PVC TOTAL LENGTH 5.0 ft DIA. 2-inch SLOT SIZE 20-Slot

Depth, feet	Stick Up	J-Plug	Graphic Log	Visual Description	Blow Counts per 6"	PID Values (ppm)	REMARKS
5	Cement	Concrete		Dark brown, fine to coarse SAND, some fine to medium Gravel, trace silt; moist Brown, fine to coarse SAND, some fine to coarse Gravel, trace silt; moist		0.0 0.6	6 ft recovery Sample CFMW-016a 0-0.5 collected Sample CFMW-016a 0.5-2 collected
10				Grey, fine to coarse SAND, some Silt, little fine to medium Gravel; wet, loose Tannish brown, coarse SAND, some fine to medium Gravel, little fine to medium Sand, trace silt; wet		0.8 0.1	8 ft recovery
15				Dark grey, fine to medium SAND, some Silt and fine to coarse Gravel, trace cobble; wet, loose		0.5	Sample CFMW-016a 10-12 collected
20				Light grey, fine to coarse SAND, some fine to coarse Gravel, little Cobble and Silt; wet		0.2	9 ft recovery
25				Light grey, fine to coarse SAND, some fine to coarse Gravel; wet		0.1	
30				Dark brown, PEAT with organic roots, some light grey fine Sand and Silt; moisture not noted Brown, fine to coarse SAND, some fine to coarse Gravel, trace silt; wet, loose Brown, fine SAND, little fine to medium Gravel; wet		0.0 0.0	9 ft recovery
35				Brown, fine to coarse SAND, little fine to medium Gravel; moist to dry		0.0	
40				Dark grey, fine to coarse SAND, little Silt and fine to medium Gravel; wet, loose		0.0	9 ft recovery
45				Brown, fine to coarse SAND, little fine to coarse Gravel, trace medium to coarse sand and silt; moist		0.0	
50				Brown, fine to coarse SAND, some fine to coarse Gravel; trace silt; moist to dry Brown to red, fine to coarse SAND, some fine to coarse Gravel and broken Boulder, trace silt; dry, dense		0.0 0.0	2 ft recovery; hard drilling 6 ft recovery; hard drilling

BORING/FEET CFAC BORING LOGS.GPJ ROUX.GDT 7/15/16

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APPROVED BY L. Jensen		LOGGED BY A. Hoffmann	Columbia Falls, Montana

Depth, feet	Graphic Log	Visual Description (continued)	Blow Counts per 6"	PID V al u e s (ppm)	REMARKS
		Brown, fine to coarse SAND and fine to coarse Gravel, trace silt; dry, loose (continued)		0.0	
55		Brown, fine to coarse SAND and fine to coarse GRAVEL (pulverized), trace silt; dry, loose		0.0	10 ft recovery
60		Brown, fine to coarse SAND, some pulverized Boulder and Cobble, little fine to coarse Gravel; dry, loose		0.0	
65	Grout	Dark grey, fine to coarse SAND, some Cobble and fine to coarse Gravel, trace silt; wet, loose		0.0	10 ft recovery; hard drilling
70		Brown, fine to coarse SAND, some pulverized Boulder and Cobble; dry		0.0	
75	121' of Schedule 40 PVC Riser	Brown, coarse SAND, some fine to coarse Gravel; trace cobble; moist		0.0	
80		Brown, fine to coarse SAND, some fine to coarse Gravel and Cobble (pulverized), little silt; dry, dense		0.0	8 ft recovery
85		Brown, coarse SAND, some fine to medium Gravel, trace fine to medium sand; wet, loose		0.0	
90		No Recovery; slough (graded coarse sand through coarse gravel)			No Recovery
95		No Recovery; slough (coarse sand and fine to coarse gravel)			No Recovery
100				0.0	
105		Brown, fine to coarse SAND, some fine to coarse Gravel and Cobble, trace silt; wet, medium dense		0.0	
					8 ft recovery

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APPROVED BY	LOGGED BY	
L. Jensen	A. Hoffmann	Columbia Falls, Montana

Depth, feet	Graphic Log	Visual Description (continued)	Blow Counts per 6"	PID Values (ppm)	REMARKS
110		Brown, fine to coarse SAND, trace cobble; wet, loose (continued)		0.0	
115		Brown, fine to coarse SAND, some fine to coarse Gravel; wet, loose		0.0	
120		Brown, fine to coarse SAND; wet, loose		0.0	10 ft recovery
125		Brown, fine to coarse SAND, little Silt, little Cobble and fine to coarse Gravel; moist, medium dense		0.0	
130		Brown, fine to coarse SAND, little Silt and fine to coarse Gravel; dry, medium dense		0.0	3 ft recovery
135		Brown, fine to coarse SAND, some Silt and fine to coarse Gravel; dry, loose		0.0	10 ft recovery
140		Orange brown, fine to coarse SAND, some Silt, little fine Gravel and Clay; moist, dense/stiff		0.0	
145		Orange brown, fine to coarse SAND and SILT, some fine Gravel and Clay; moist, dense/stiff		0.0	12 ft recovery
150				0.0	15 ft recovery
155				0.0	
160				0.0	

BORING/FEET CFAC BORING LOGS.GPJ ROUX.GDT 7/15/16

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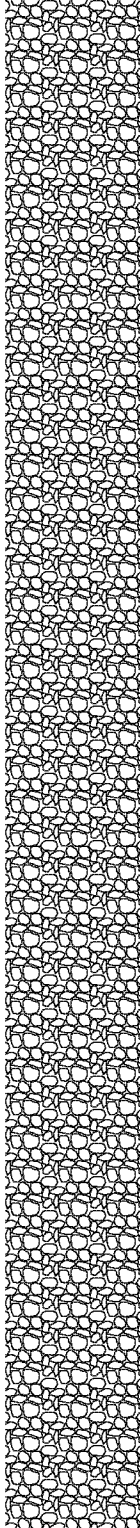
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Depth, feet	Graphic Log	Visual Description (continued)	Blow Counts per 6"	PID Values (ppm)	REMARKS
165		Orange brown, fine to coarse SAND and SILT, some fine Gravel and Clay; moist, dense/stiff (continued)			165
170					170
175		Orange brown, fine to coarse SAND and SILT, some fine Gravel and Clay; moist, dense/stiff		0.0	175
180					180
185					185
190					190
195					195
200					200
205					205
210					210
215					215
220					220

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Depth, feet	Graphic Log	Visual Description (continued)	Blow Counts per 6"	PID Values (ppm)	REMARKS
.....		Orange brown, fine to coarse SAND and SILT, some fine Gravel and Clay; moist, dense/stiff (continued)		0.0
225					225
.....					15 ft recovery
.....				
230					230
.....		Grout		0.0
235					235
.....				
240					240
.....					15 ft recovery
245					245
.....				
250					250
.....					0.0
255					255
.....		Reddish brown, fine to coarse SAND and SILT, some fine Gravel and Clay; moist, dense/stiff		0.0	15 ft recovery
260					260
.....		Orange brown, fine to coarse SAND and SILT, some fine Gravel and Clay; moist, dense/stiff		0.0
265					265
.....				
270					270
.....					15 ft recovery
275					275

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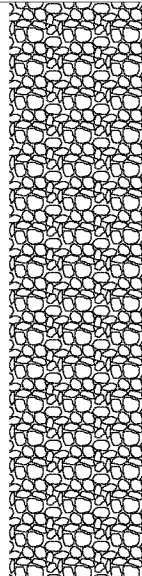
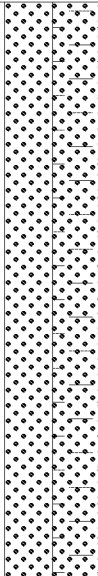


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Depth, feet	Graphic Log	Visual Description (continued)		Blow Counts per 6"	PID V a l u e s (ppm)	REMARKS
280		Grout		Orange brown, fine to coarse SAND and SILT, some fine Gravel and Clay; moist, dense/stiff (continued)	0.0	7 ft recovery
285						
290						
295						
300						

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